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January 1935

Test 248: Twin City M-M Model MTA

Tractor Museum

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UNIVERSITY OF NEBRASKA - AGRICULTURAL ENGINEERING DEPARTMENT
AGRICULTURAL COLLEGE, LINCOLN

Corrected Copy of Report of Official Tractor Test No. 248

Dates of test: October 2 to 17, 1935.

Name and model of tractor: M-M TWIN CITY "MTA"

Manufacturer: Minneapolis-Moline Power Implement Co., Minneapolis, Minn.

Manufacturer's rating: NOT RATED.

B R A K E H O R S E P O W E R T E S T S

[illegible]

TEST B 100% MAXIMUM LOAD. TWO HOURS

33,23 : 1148 : 3,802 : 8,74 : 0,791 : 0,000 : 0,000 : 0,000 : 173 : 76 : 28,970

TEST C OPERATING MAXIMUM LOAD. ONE HOUR

31.80 : 1150 : 3.295 : 9.65 : 0.716 : 0.000 : 0.000 : 0.000 : 176 : 72 : 28.915

TEST D RATED LOAD. ONE HOUR

29.77 : 1151 : 3.001 : 9.92 : 0.697 : 0.000 : 0.000 : 0.000 : 176 : 72 : 28.885

TEST E *VARYING LOAD. TWO HOURS

29.60	: 1149	: 2.965	: 9.98	: 0.692	: --	: --	: --	: 180	: 77	: --
0.93	: 1280	: 1.194	: 0.78	: 8.871	: --	: --	: --	: 194	: 75	: --
16.00	: 1238	: 1.941	: 8.24	: 0.838	: --	: --	: --	: 185	: 75	: --
30.15	: 1119	: 2.961	: 10.18	: 0.679	: --	: --	: --	: 180	: 76	: --
8.13	: 1256	: 1.493	: 5.45	: 1.269	: --	: --	: --	: 183	: 77	: --
23.36	: 1204	: 2.501	: 9.34	: 0.740	: --	: --	: --	: 184	: 76	: --
18.03	: 1204	: 2.176	: 8.29	: 0.834	: 0.000	: 0.000	: 0.000	: 184	: 76	: 28.650

*20 minute runs. Last line is average for two hours.

DRAWBAR HORSE POWER TESTS

	: Draw :	Speed :	Crank :	Slip :	Fuel Consumption	:	Water:	Temp.	:
H. P.	: bar :	miles :	shaft :	on :		H. P. : Lbs.	: used :		: Barometer
	: pull :	per :	speed :	drive:	Gal.: hour	: per :	Gal.:	Cool-:	Air:Inches of
	: pounds:	hour :	R.P.M.:	wheels:	per :	per :	H.P.:	per ing :	: Mercury
	:	:	:	% :	hour: gal.	: hour :	hour:	med. :	:

TEST F 100% MAXIMUM LOAD. Second GEAR.

24.26 : 2672 : 3.40 : 1151 : 5.34 :-----Not Recorded-----: 180 : 79: 28.875

TEST G OPERATING MAXIMUM LOAD

24.85	: 4171	: 2.23	: 1153	: 9.83	: -----Not Recorded-----	: 180	: 68	: 28.860
**24.50	: 2692	: 3.41	: 1150	: 5.05	: -----" "	: 185	: 79	: 28.890
21.39	: 1777	: 4.51	: 1149	: 4.76	: -----" "	: 183	: 75	: 28.875

TEST H RATED LOAD. TEN HOURS. Second GEAR.

19.43 : 2140 : 3.40 : 1151 : 5.27 : 2.779 : 6.99 : 0.988 : 0.053 : 187 : 78 : 28.725

**See Page 3.

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Copy of Report of Official Tractor Test No. 248

BRIEF SPECIFICATIONS

MOTOR: Make Own Serial No. 526653 Type 4 cylinder vertical
 Head I Mounting Crankshaft lengthwise
 Bore and stroke: 4 1/4" x 5" Rated R.P.M. 1150
 Port Diam. Valves: Inlet 1 1/2" Exhaust 1 3/8"
 Belt pulley: Diam. 14" Face 7" R.P.M. 822
 Magneto: American Bosch Model U-4
 Carburetor Schebler Model TTX 15 Size 1"
 Governor: Own No. None Type Centrifugal
 Air Cleaner: Donaldson Type Combination oil and centrifugal wire
screen labyrinth
 Lubrication: Pressure

CHASSIS: Type 4 wheels, 2 drivers Serial No. 525789 Drive Enclosed gear
 Clutch: Twin Disc Type Single plate Operated by hand
 Advertised speeds, miles per hour: First 2.1 Second 3.1
Third 4.1 Reverse 1.8
 Drive wheels: Diam. 42" Face 10"
 Lugs: Type Spade No. per wheel 20 Size 4" high x 2" face
 Extension rims: Width 6" Lugs No. per rim 10 Size 4" high x 2" face
 Seat Pressed steel
 Total weight as tested (with operator) 5495 pounds.

FUEL AND OIL:

Fuel: Distillate Weight per gallon 6.91 pounds.
 Oil: S.A.E. #30 The oil was drained
 Total oil to motor 4.494 gallons twice - once at the
 Total drained from motor 5.017 gallons end of approximately
 Total time motor was operated 48 hours at the end of the
test.

UNIVERSITY OF NEBRASKA - AGRICULTURAL ENGINEERING DEPARTMENT
AGRICULTURAL COLLEGE, LINCOLNCopy of Report of Official Tractor Test No. 248REPAIRS AND ADJUSTMENTS

No repairs or adjustments.

REMARKS

All results shown on page 1 of this report were determined from observed data and without allowances, additions, or deductions. Tests B and F were made with the carburetor set for 100% maximum horsepower. Test B figures were used in determining the belt rating recommended by the A.S.A.E. and S.A.E. tractor rating codes.

**Since the horsepower obtained in second gear with the operating setting of the carburetor exceeded that obtained with the 100% setting, test 248 G, second gear, was used as a basis for determining the drawbar rating recommended by the A.S.A.E. and S.A.E. tractor rating codes. Tests C, D, E, G and H were made with an operating setting of the carburetor (selected by the manufacturer) of 95.7% of maximum horsepower.

Observed maximum horsepower (tests B & F) Drawbar 24.50 Belt 33.23

Sea level (calculated) maximum horsepower Drawbar 25.82 Belt 34.86
(Based on 60° F. and 29.92" Hg.)Highest permissible horsepower ratings Drawbar 19.37 Belt 29.63
(As recommended by A.S.A.E. and S.A.E.
codes)

The 100% maximum belt and drawbar tests were not included in reports issued from 1928 to 1934 inclusive, except in those cases where the 100% maximum setting was used throughout the complete test.

We, the undersigned, certify that the above is a true and correct report of official tractor test No. 248.

Carlton L. Zink
Engineer-in-charge

E. E. Brackett

C. W. Smith

E. B. Lewis

Board of Tractor Test Engineers